

WHAT IS CLAIMED IS:

1. A method comprising:
obtaining a set of multiple images of a target feature location on an array of multiple features, each image of the set representing the target feature location following deposition of a corresponding sub-set of multiple droplets for that feature; and
generating an overlay composite from the image set.

2. A method according to claim 1 wherein the overlay composite comprises a region of overlap of the droplet sub-sets.

3. A method according to claim 1 wherein:
multiple image sets are obtained of respective multiple target feature locations, each image set representing a corresponding target feature location and in which each image represents the location following deposition of a corresponding droplet sub-set for that feature; and
an overlay composite is generated from each of the image sets.

4. A method of fabricating an array of features, comprising:
depositing multiple reagent droplets for each of multiple target feature locations so as to form the array of features;
obtaining a set of multiple images of a target feature location, each image of the set representing the target feature location following deposition of a corresponding sub-set of multiple droplets for that feature; and
generating an overlay composite from the image set.

5. A method according to claim 4 wherein the multiple reagent droplets are ejected from a pulse-jet.

6. A method according to claim 4 wherein the overlay composite comprises a region of overlap of the droplet sub-sets.

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7. A method according to claim 4 wherein multiple image sets are obtained of respective multiple target feature locations, each image set representing a corresponding target feature location and in which each image represents the location following deposition of a corresponding sub-set of multiple droplets for that feature.

8. A method according to claim 7 wherein each set is obtained from multiple captured images each of which simultaneously includes multiple target feature locations following a cycle of droplet depositions at those locations.

9. A method according to claim 4 wherein the array is a biopolymer array.

10. A method according to claim 4 wherein the array is a polynucleotide array and the set of images includes, for all nucleotide droplets for the feature, an image representing the target feature location following deposition of all droplets for a corresponding one of the nucleotide monomers.

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11. A method according to claim 4 additionally comprising either altering the deposition of additional droplets for the feature, or of droplets for other features on the same or another array, based at least in part on the overlay composite.

12. A method according to claim 4 wherein the overlay composite is stored on a storage medium and forwarded to a remote user of the array.

13. A method of fabricating an array of features, comprising:
depositing multiple reagent droplets for each of multiple target feature locations so as to form the array of features;
obtaining a set of multiple images of a target feature location, each image of the set representing the target feature location following deposition of a corresponding sub-set of multiple droplets for that feature; and
storing the set on a storage medium.

14. A method according to claim 13 wherein the multiple droplets are deposited from a pulse-jet.

15. A method according to claim 13 wherein the set is stored on a storage medium and forwarded to a remote user of the array.

16. A method according to claim 1 additionally comprising:
exposing the array to a sample;
interrogating the array following the exposure and optionally processing results of the interrogation; C
wherein either the interrogation or processing is based at least in part on the overlay composite.

17. A method according to claim 15 wherein a result of the interrogation or processing is forwarded to a remote location.

18. A method comprising transmitting data representing a result of the interrogation or processing from the method of claim 17.

19. An apparatus for fabricating an array of features, comprising:
a drop deposition system to deposit multiple reagent droplets for each of multiple target feature locations so as to form the array of features;
an image capture system which provides a set of multiple images of a target feature location, each image of the set representing the target feature location following deposition of a corresponding sub-set of multiple droplets for that feature; and
a processor which generates an overlay composite from the image set.
Sub-sets

20. An apparatus according to claim 19 wherein the drop deposition system comprises a pulse-jet.

21. An apparatus according to claim 19 wherein the overlay composite generated by the processor comprises a region of overlap of the droplet sub-sets.

22. An apparatus according to claim 19 wherein the image capture system provides multiple image sets of respective multiple target feature locations, each image set representing a corresponding target feature location and in which each image represents the location following deposition of a corresponding sub-set of multiple droplets for that feature.

23. An apparatus according to claim 22 wherein the image capture system provides each set from multiple captured images each of which simultaneously includes multiple target feature locations following a cycle of droplet depositions at those locations.

24. An apparatus according to claim 19 wherein the array is a polynucleotide array and the set of images includes, for multiple nucleotide reagent droplets for the feature, an image representing the target feature location following deposition of a corresponding one of the nucleotide monomer droplets.

25. An apparatus according to claim 19 wherein the drop deposition system alters the deposition of additional droplets for the feature, or of droplets for other features on the same or another array, based at least in part on the overlay composite.
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26. An apparatus according to claim 19 additionally comprising a storage medium and a communication module, wherein the processor stores the overlay composite on the storage medium and causes the communication module to communicate the stored overlay composite to a remote user of the array.

27. An apparatus for fabricating an array of features, comprising:
a drop deposition system to deposit multiple reagent droplets for each of multiple target feature locations so as to form the array of features;
an image capture system which provides a set of multiple images of a target feature location, each image of the set representing the target feature location following deposition of a corresponding sub-set of multiple droplets for that feature; and
a storage medium onto which the image set or an overlay composite of them are stored.

28. An apparatus according to claim 27, additionally comprising a communication module to communicate the stored image set or an overlay composite to a remote user of the array.

29. A computer program product comprising a computer readable storage medium carrying computer readable program code, for use with an apparatus for fabricating an array of features which apparatus includes a drop deposition system and an image capture system under the control of a computer, the program code when loaded into the computer performing the steps of:

depositing multiple reagent droplets from the drop deposition system for each of multiple target feature locations, so as to form an array of features;

obtaining from the image capture system, a set of multiple images of a target feature location on an array of multiple features, each image of the set representing the target feature location following deposition of a corresponding sub-set of multiple droplets for that feature; and

generating in the computer an overlay composite from the image set.

30. A computer program product comprising a computer readable storage medium carrying computer readable program code, for use with an apparatus having a data retrieval unit under the control of a computer, the program code when loaded into the computer performing the steps of:

obtaining through the data retrieval unit a set of multiple images of a target feature location on an array of multiple features, each image of the set representing the target feature location following deposition of a corresponding sub-set of multiple droplets for that feature; and

generating in the computer an overlay composite from the image set.

31. A computer program product according to claim 30 wherein the program code generates an overlay composite comprising a region of overlap of the multiple droplets.

32. A computer program product according to claim 30 wherein:

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multiple image sets are obtained of respective multiple target feature locations, each image set representing a corresponding target feature location and in which each image represents the location following deposition of a corresponding sub-set of multiple droplets for that feature; and

an overlay composite is generated in the computer from each of the image sets.

33. A computer program product according to claim 30 wherein the program code additionally either alters the deposition of additional droplets for the feature, or of droplets for other features on the same or another array, based at least in part on the overlay composite.

34. A computer program product according to claim 30 wherein the program code additionally performs the step of:

controlling at least in part, interrogation of the array following exposure to a sample; and

optionally processing results of the interrogation;

wherein either the interrogation or processing is based at least in part on the overlay composite.